

AMENDMENTS TO THE CLAIMS:

1. (Currently Amended) A ball game apparatus for playing a ball game by displaying at least a ball character on a screen of a display device, comprising:

an input device to be moved in a three-dimensional space by a game player, said input device having a grip that is grasped by a game player;

a piezoelectric buzzer incorporated in said input device which outputs an acceleration correlated signal according to an acceleration upon moving said input device in the three-dimensional space; and, ~~said acceleration correlation signal having variations in magnitude levels that corresponds to the acceleration of said input device;~~

~~enabling means for enabling an output of the acceleration correlated signal when a magnitude level of the acceleration correlated signal is equal to or larger than a predetermined level; and~~

a game processor for receiving the acceleration correlated signal and ~~determining a parameter for a movement of the ball character after being hit back based on the magnitude level of the acceleration correlated signal~~ and causing a change in the ball character being displayed on the screen,

wherein said piezoelectric buzzer is arranged within said input device in a manner that a main surface of said piezoelectric buzzer is perpendicular to or in parallel with a longitudinal direction of said grip.

2. (Canceled)

3. (Currently Amended) The ball game apparatus according to claim 1, further comprising:

acceleration correlated signal transmitting means for transmitting the acceleration correlated signal in a wireless manner,

~~wherein said~~ enabling means for enabling enables an output of said acceleration correlated signal transmitting means to transmit the acceleration correlated signal when a magnitude level of the acceleration correlated signal is equal to or larger than a predetermined level.

4. (Previously Presented) The ball game apparatus according to claim 1, further comprising an information storage medium,

said game processor including at least operation processing means, image processing means, sound processing means and a memory;

said operation processing means executing a program code stored in said information storage medium and calculating at least a position, moving direction and speed of the ball character on the basis of an acceleration correlated signal outputted from said signal output means;

said image processing means generating image information including the ball character by use of image data stored in said information storage medium under control of said operation processing means;

said sound processing means reproducing sound by use of sound data stored in said information storage medium under control of said operation processing means;

said memory being used for at least said operation processing means to hold a process and result of an operation.

5. (Previously Presented) The ball game apparatus according to claim 4, wherein said information storage medium includes a non-volatile semiconductor memory.

6. (Previously Presented) The ball game apparatus according to claim 1, wherein

said ball game is a baseball game,

said input device includes a bat input device,

said game processor causes a change in the ball character according to the acceleration correlated signal from said bat input device.

7. (Canceled)

8. (Previously Presented) The ball game apparatus according to claim 1, wherein

the ball game is a game using a racket,

said input device includes a racket input device,

said game processor causes a change in the ball character according to the acceleration correlated signal from said racket input device.

9. (Previously Presented) The ball game apparatus according to claim 3, wherein said acceleration correlated signal transmitting means includes an infrared-ray emission element and a light receiving element which receives the infrared-ray from said infrared-ray emission element.

10. (Currently Amended) The ball game apparatus according to claim 1, wherein said game processor ~~evaluates a peak value of a moving speed of said input device based upon the acceleration correlated signal, and then evaluates a parameter for the change of said ball character on the basis of at least the peak value of the moving speed of said input device~~ detects a timing that said acceleration correlated signal reaches a peak value, and determines based on said timing and a timing of said ball character whether said ball character is hit back and the parameter for movement of said ball character.

11. (Previously Presented) A ball game apparatus according to claim 1, wherein said signal output means includes at least one pair of acceleration sensors which are provided so as to sandwich an origin, and said game processor evaluates a moving speed of said input device in accordance with a sum of detection values of said pair of acceleration sensors and a rotating speed of said input device in accordance with a difference of said detection values of said pair of acceleration sensors.

12. (Currently Amended) A ball game apparatus for playing a ball game by displaying at least a ball character on a screen of a display device, comprising:

an input device to be moved in a three-dimensional space by a game player, said input device having a plurality of surfaces different from each other;

signal output means incorporated in said input device to output an acceleration correlated signal according to an acceleration upon moving said input device in the three-dimensional space; and

~~enabling means for enabling said signal output means to output the acceleration correlated signal when a level of the acceleration correlated signal is equal to or larger than a predetermined level; and~~

a game processor for receiving the acceleration correlated signal and ~~determining whether the ball character is hit back and a parameter for a movement of the ball character after the hit back based on the acceleration correlated signal~~ and causing a change in the ball character being displayed on the screen,

wherein said signal output means includes a plurality of transmitting means, each of which transmits the acceleration correlated signal in a wireless manner, said plurality of transmitting means transmitting the acceleration correlated signal from the different surfaces of said input device.

13. (Currently Amended) The game apparatus according to claim 12, wherein said game processor determines based on the acceleration correlated signal whether a timing that said input device is swung by said game player and a moving timing of said ball character are coincident with each other, and when the both timings are coincident

with each other, determines based on at least ~~[[a]]~~ the moving timing of said ball character a moving direction of said ball character as said parameter.

14. (Currently Amended) The game apparatus according to claim 13 ~~[[12]]~~, wherein said game processor determines a moving direction of said ball character by further taking a course of said ball character into account.

15. (Currently Amended) The game apparatus according to claim 1 ~~[[12]]~~, wherein said game processor determines ~~a moving speed of said ball character in accordance with a level of said acceleration correlated signal~~ based on the acceleration correlated signal whether a timing that said input device is swung by said game player and a moving timing of said ball character are coincident with each other, and when the both timings are coincident with each other, determines based on at least the moving timing of said ball character a moving direction of said ball character as said parameter.

16. (Currently Amended) The game apparatus according to claim 15 ~~[[12]]~~, wherein ~~said input device includes a piezoelectric buzzer incorporated therein, said acceleration correlated signal being generated by said piezoelectric buzzer~~ said game processor determines a moving direction of said ball character by further taking a course of said ball character into account.

17. (Previously Presented) The game apparatus according to claim 12, wherein said game processor detects a timing that said acceleration correlated signal reaches a

peak value, and determines based on said timing and a timing of said ball character whether said ball character is hit back and the parameter for movement of said ball character.

18. (Previously Presented) The game apparatus according to claim 12, wherein said game processor detects a timing that said acceleration correlated signal reaches a predetermined value, and determines based on said timing and a timing of said ball character whether said ball character is hit back and the parameter for movement of said ball character.

19. (Currently Amended) The game apparatus according to claim 12, further comprising:

acceleration correlated signal transmitting means for transmitting the acceleration correlated signal in a wireless manner, wherein

enabling means for enabling an output of said ~~enabling means enables~~ said acceleration correlated signal transmitting means to transmit the acceleration correlated signal when a magnitude level of the acceleration correlated signal is equal to or larger than the predetermined level.

20. (Previously Presented) The game apparatus according to claim 12, further comprising an information storage medium,

said game processor including at least operation processing means, image processing means, sound processing means and a memory;

said operation processing means executing a program code stored in said information storage medium and calculating at least a position, moving direction and speed of the ball character on the basis of an acceleration correlated signal outputted from said signal output means;

said image processing means generating image information including the ball character by use of image data stored in said information storage medium under control of said operation processing means;

said sound processing means reproducing sound by use of sound data stored in said information storage medium under control of said operation processing means;

said memory being used for at least said operation processing means to hold a process and result of an operation.

21. (Previously Presented) The game apparatus according to claim 20, wherein said information storage medium includes a non-volatile semiconductor memory.

22. (Previously Presented) The game apparatus according to claim 12, wherein said ball game is a baseball game,

said input device including a bat input device,

said game processor causing a change in the ball character according to the acceleration correlated signal from said bat input device.

23. (Previously Presented) The game apparatus according to claim 12, wherein the ball game is a game using a racket,

said input device including a racket input device,
said game processor causing a change in the ball character according to the acceleration correlated signal from said racket input device.

24. (Previously Presented) The game apparatus according to claim 19, wherein said acceleration correlated signal transmitting means includes an infrared-ray emission element, further comprising a light receiving element which receives the infrared-ray from said infrared-ray emission element.

25. (Previously Presented) The game apparatus according to claim 12, wherein said signal output means includes at least one pair of acceleration sensors which are provided so as to sandwich an origin, and said game processor evaluates a moving speed of said input device in accordance with a sum of detection values of said pair of acceleration sensors and a rotating speed of said input device in accordance with a difference of said detection values of said pair of acceleration sensors.

26. (Currently Amended) A ball game apparatus for playing a ball game by displaying at least a ball character on a screen of a display device, comprising:

an input device to be moved in a three-dimensional space by a game player;
signal output means incorporated in said input device to output an acceleration correlated signal according to an acceleration upon moving said input device in the three-dimensional space;

enabling means for enabling said signal output means to output the acceleration correlated signal when a level of the acceleration correlated signal is equal to or larger than a predetermined level; and

a game processor for receiving the acceleration correlated signal and determines based on said acceleration correlated signal and a moving timing of said ball character a moving direction of said ball character as a parameter for a movement of the ball character.

27. (Previously Presented) The game apparatus according to claim 26, wherein said game processor determines a moving direction of said ball character by further taking a course of said ball character into account.

28. (Previously Presented) The game apparatus according to claim 26, wherein said game processor determines a moving speed of said ball character in accordance with a level of said acceleration correlated signal.

29. (Previously Presented) The game apparatus according to claim 26, wherein said input device includes a piezoelectric buzzer incorporated therein, said acceleration correlated signal being generated by said piezoelectric buzzer.

30. (Previously Presented) The game apparatus according to claim 26, wherein said game processor detects a timing that said acceleration correlated signal reaches a

peak value, and determines based on said timing and a timing of said ball character the moving direction of said ball character.

31. (Previously Presented) The game apparatus according to claim 26, wherein said game processor detects a timing that said acceleration correlated signal reaches a predetermined value, and determines based on said timing and a timing of said ball the moving direction of said ball character.

32. (Previously Presented) The game apparatus according to claim 26, further comprising:

acceleration correlated signal transmitting means for transmitting the acceleration correlated signal in a wireless manner, wherein

the enabling means enables said acceleration correlated signal transmitting means to transmit the acceleration correlated signal when a level of the acceleration correlated signal is equal to or larger than the predetermined level.

33. (Previously Presented) The game apparatus according to claim 26, further comprising an information storage medium,

said game processor including at least operation processing means, image processing means, sound processing means and a memory;

said operation processing means executing a program code stored in said information storage medium and calculating at least a position, moving direction and

speed of the ball character on the basis of an acceleration correlated signal outputted from said signal output means;

said image processing means generating image information including the ball character by use of image data stored in said information storage medium under control of said operation processing means;

said sound processing means reproducing sound by use of sound data stored in said information storage medium under control of said operation processing means;

said memory being used for at least said operation processing means to hold a process and result of an operation.

34. (Previously Presented) The game apparatus according to claim 33, wherein said information storage medium includes a non-volatile semiconductor memory.

35. (Previously Presented) The game apparatus according to claim 26, wherein said ball game is a baseball game,

said input device including a bat input device,

said game processor causing a change in the ball character according to the acceleration correlated signal from said bat input device.

36. (Previously Presented) The game apparatus according to claim 26, wherein

the ball game is a game using a racket,

said input device including a racket input device,

said game processor causing a change in the ball character according to the acceleration correlated signal from said racket input device.

37. (Previously Presented) The game apparatus according to claim 32, wherein said acceleration correlated signal transmitting means includes an infrared-ray emission element, further comprising a light receiving element which receives the infrared-ray from said infrared-ray emission element.

38. (Previously Presented) The game apparatus according to claim 26, wherein said signal output means includes at least one pair of acceleration sensors which are provided so as to sandwich an origin, and said game processor evaluates a moving speed of said input device in accordance with a sum of detection values of said pair of acceleration sensors and a rotating speed of said input device in accordance with a difference of said detection values of said pair of acceleration sensors.

39. (Currently Amended) A ball game apparatus for playing a ball game by displaying at least a ball character on a screen of a display device, comprising:

an input device to be moved in a three-dimensional space by a game player;

an acceleration switch incorporated in said input device to output an ON signal when an acceleration upon moving said input device in the three-dimensional space becomes a predetermined value or more; and

a game processor for receiving the ON signal and determines, based on a timing that said acceleration switch is turned-on and a position of said ball character, at least one of a moving speed and a moving direction of said ball character.

40. (Previously Presented) The game apparatus according to claim 39, wherein said game processor determines a moving direction of said ball character by further taking a course of said ball character into account.

41. (Previously Presented) The game apparatus according to claim 39, wherein said acceleration switch includes a weight which is elastically biased by a spring.

42. (Previously Presented) The game apparatus according to claim 39, further comprising an information storage medium,

said game processor including at least operation processing means, image processing means, sound processing means and a memory;

said operation processing means executing a program code stored in said information storage medium and calculating the moving direction of the ball character on the basis of the ON signal outputted from said acceleration switch and the position of said ball character;

said image processing means generating image information including the ball character by use of image data stored in said information storage medium under control of said operation processing means;

said sound processing means reproducing sound by use of sound data stored in said information storage medium under control of said operation processing means;

said memory being used for at least said operation processing means to hold a process and result of an operation.

43. (Previously Presented) The game apparatus according to claim 42, wherein said information storage medium includes a non-volatile semiconductor memory.

44. (Previously Presented) The game apparatus according to claim 39, wherein said ball game is a baseball game,

said input device including a bat input device,

said game processor causing a change in the ball character according to the ON signal from said bat input device.

45. (Previously Presented) The game apparatus according to claim 39, wherein the ball game is a game using a racket,

said input device including a racket input device,

said game processor causing a change in the ball character according to the ON signal from said racket input device.

46. (Previously Presented) The ball game apparatus according to claim 39, further comprising: ON signal transmitting means for transmitting the ON signal in a wireless manner.

47. (Previously Presented) The ball game apparatus according to claim 46, wherein said ON signal transmitting means includes an infrared-ray emission element, further comprising a light receiving element which receives the infrared-ray from said infrared-ray emission element.

48. (New) The ball game apparatus according to claim 12, wherein each of said plurality of transmitting means includes an infrared light emitting diode.

49. (New) The ball game apparatus according to claim 1, wherein said game processor detects a timing that said acceleration correlated signal reaches a predetermined value, and determines based on said timing and a timing of said ball character whether said ball character is hit back and the parameter for movement of said ball character.